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Notice of Allowability

Application No.

09/544,735

Examiner

Melanie Jagannathan

Applicant(s)

LYNCH ET AL.

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2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/6/2005.
2. ☒ The allowed claim(s) is/are 3,5-16,18,19 renumbered as 1-15 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

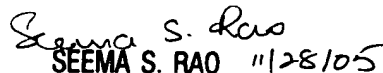
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>11/18/2005</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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SEEMA S. RAO 11/28/05
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

- Examiner has considered Amendment after Non-Final mailed 10/06/2005.
- Claims 3,5-16,18,19 are pending.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Rita Rooney on November 17, 2005.

The application has been amended as follows:

3. A method of providing conferencing resources in an expandable telecommunications system having a plurality of nodes, and a host coupled to at least one node of the plurality of nodes for controlling the system in which conferencing resources are utilized by one or more of said plurality of nodes that are participating in a conference, the method including the steps of:

(A) providing the plurality of nodes with means for connecting and disconnecting communications paths between a plurality of ports having digital network/line interfaces that couple the plurality of nodes ~~node~~ with the a PSTN and private networks, said plurality of nodes including switching nodes that can switch communications to any port connected to the system, and at least two of said switching nodes being conferencing nodes, said conferencing nodes including individual digital signal processing (DSP) circuits programmed to perform a conference between three or more participants who are callers connected at any port in the system, and said switching nodes having switching buses on which ~~that~~ each node of said plurality of

nodes is assigned time slots for transmitting and receiving data and control information and said switching nodes being connected in communicating relationship by an inter-nodal network;

(B) defining a requested conference as being of one of a dynamic conference type, a critical conference type and a static conference type, including determining conference type by employing statistical analysis and/or historical data about past system conference behavior in said statistical analysis to predict conference type;

(C) identifying the a DSP circuit within a conferencing node that has available resources for performing a conferencing function for a conference of that type as requested in the system; and

(D) after said DSP circuit within a conferencing node that has available resources has been identified, determining whether the conferencing node in which said identified DSP circuit is located has sufficient available time slots on its switching bus to manage the data to and from all of the participants in the requested conference.

5. The method of providing conferencing resources as defined in claim 3, including the further step of employing user-defined parameters to determine conference type.

6. The method of providing conferencing resources as defined in claim 3, including the further step of using historical information about an average conference generally handled by a particular system and handled at a particular port to predict conference type.

7. The method of providing conferencing services as defined in claim 3, including the further step of defining as said dynamic conference a conference that is likely to change in size based upon predetermined criteria.

8. The method of providing conferencing services as defined in claim 7, including the further step of assigning the a DSP circuit ~~and~~ within a conferencing node having

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the maximum available capacity to for a conference which has been identified as a dynamic conference.

9. The method of providing conferencing services as defined in claim 8, including the further step of selecting for a dynamic conference ~~the~~ a DSP circuit within a conferencing node in the system having as many channels as possible such that a conference can grow as large as possible and that channels remain available for participants who join the conference while in progress.

10. The method of providing conferencing services as defined in claim 3 including the further step of defining as said critical conference a conference that requires the maximum opportunity for growth in the system.

11. The method of providing conferencing services as defined in claim 10 including the further step of selecting, for establishing a critical conference, ~~the~~ a DSP circuit within a conferencing node with the maximum available capacity and instructing ~~the said~~ DSP circuit with said maximum available capacity to reserve these conference resources and to establish the critical conference, and further instructing ~~the~~ said DSP circuit to block other conferences from being assigned to that DSP circuit such that capacity remains available for that critical conference, for the life of that critical conference.

12. The method of providing conferencing services as defined in claim 11 including the further step of revealing blocked channels for use by the DSP circuit within the conferencing node with the maximum available capacity, after the critical conference is finished.

13. The method of providing conferencing services as defined in claim 3, including the further step of defining as said static conference a conference in which the number of participants will remain substantially constant.

14. The method of providing conferencing services as defined in claim 13, including the further step of assigning a static conference to a DSP circuit within a conferencing node on a "best fit" basis.

15. A method of providing conferencing resources in an expandable telecommunications system having a plurality of nodes, and a host coupled to at least one node of a plurality of nodes for controlling the system in which conferencing resources are utilized by one or more nodes of said plurality of nodes that are participating in a conference, the method including the steps of:

(A) providing said telecommunications system with a line-to-switch (LSD) data bus comprised of multiple individual bus conductors, each bus conductor carrying time slots coming into ~~the~~ a node of said plurality of nodes from line cards, including T1 line cards, and said system further including a switch-to-line (SLD) data bus comprised of multiple individual bus conductors that carry time slots of PCM-encoded data from a nodal switch in the node back out to a destination line card;

(B) defining a requested conference as being of one of a dynamic conference type, a critical conference type and a static conference type;

(C) identifying ~~the~~ a DSP circuit within a conferencing node that has available resources for performing a conferencing function for a conference of the type requested; and

(D) identifying a zone of time slots having the lowest order of allocation such that it is least likely to be taken when a new T1 card is inserted into the system during operation, and assigning a conferencing node to use these lowest orders of allocation time slots for a requested conference.

16. The method of providing conferencing resources as defined in claim 15, including the step of:

(a) allocating zones of time slots in such a manner that 192 time slots of a T1 span are divided into the following segments:

time slots 0-191 are in the regular T1 channel;

time slots 192-215 are the lower dead zone;

time slots 216-223 are in the lower small dead zone;

time slots 224-247 are in the upper large dead zone; and

time slots 248-255 are in the upper small dead zone; and

(b) assigning time slots in the lower and upper small dead zones of the individual bus conductors to conferences.

18. An expandable telecommunications system having means for conferencing three or more participants interfaced with the system, the system comprising:

(A) a plurality of nodes for performing telecommunications switching, each node of said switching plurality of nodes including means for dynamically connecting or disconnecting communication paths with respect to various ones of a plurality of ports, means for time switching information to or from said plurality of ports, means for coupling the each node of the plurality of nodes with the a PSTN and private networks via digital network/line interfaces, said plurality of nodes including switching nodes that can switch communications to any port connected to the system via the said PSTN and private networks, and means for transmitting and receiving information in packetized form, and means connected in communicating relationships including a bus for carrying data to and from said ports;

(B) a host connected in communicating relationship with at least one of said switching nodes, said host controlling predetermined operations of the system;

(C) means in said switching nodes for generating and sending a message requesting establishment of a conference call for at least three conferees connected to one or more of said plurality of nodes;

(D) means for interconnecting said switching nodes in communicating relationships and operable in conjunction with said transmitting and receiving means to transfer said packetized information such that information which originates from any port

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in the switching nodes is substantially continuously communicable to any node interfaced with said interconnecting means;

(E) at least one conferencing node for providing conferencing services, said at least one conferencing node interfaced with said interconnecting means and including individual DSP circuits, said conferencing node also having means for switching communications, including conferenced output to any other port interfaced with the system from the PSTN and private networks; and

(F) means for allocating conferencing resources including:

1. means for determining whether a DSP circuit in a conferencing node has available conferencing resources to perform a requested conference; and
2. means for determining whether the a conferencing node has sufficient available time slots on its switching buses to manage the data to and from the conferences or a particular requested conference

(G) a DSP card in said conferencing node, including:

1. a DSP module which contains a plurality of DSP circuits; and
2. a CPU including means for receiving messages about conferences to be established, and means for routing voice information to a DSP chip identified for a particular conference; and

(H) line-to-switch (LSD) data bus interfaced with line cards which connect ports in the system, and which carries a PCM-encoded voice information from the line cards to said DSP cards.

19. The expandable telecommunications system as defined in claim 18 wherein said voice information for paid conference arrives at a port coupled with one or more of the following:

- a. a landline telephone;
- b. the PSTN;
- c. a private network;
- d. a wireless network; and
- e. the Internet.

Allowable Subject Matter

1. Claims 3, 5-16, 18, 19, renumbered as 1-15 respectively, are allowed. Please refer to reasons for allowance given in previous office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 571-272-3163. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
10/27/05

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